Claims

What we claim is:

1. A signal monitoring and integrity checking system for use in optical cross-connects comprising the following elements:

at least one interconnect to connect an incoming link to an interconnecting link;

at least one multi-cast means to multi-cast the input of said at least one interconnect to at least one monitor port on said at least one interconnect; and

at least one performance monitor means, one connected to each said at least one monitor port such that said at least one performance monitor means can detect the line signalling rate, protocol, and performance characteristics of any data carried thereon.

2. The system of claim 1, further comprising:

at least a second interconnect;

at least a second multi-cast means;

at least a second performance monitor means; and

at least one comparison means to compare the outputs from said at least one performance monitoring means and said at least a second performance monitoring means such that said comparison means can detect differences in measures as error rate.

3. The system of claim 2, further comprising a signalling means to signal results of said at least one comparison means to a maintenance subsystem.

4. The system of claim 2, wherein said comparison means is part of an Operation, Administration, Maintenance and Provisioning sub-system

5. A method for signal monitoring and integrity checking in an optical system comprising the following steps:

1) multi-casting the data at an input port of an interconnect to a connecting path and a snooping path;

2) multi-casting the data at an input port of at least a second interconnect to at least a

second connecting path and at least a second snooping path;

3) monitoring said snooping path connected to said multi-cast data with a Performance Monitor;

4) monitoring said at least a second snooping path connected to said at least a second multi-cast data with at least a second Performance Monitor;

5) comparing the output of said Performance Monitor in step 3 with the output of said at least a second Performance Monitor in step 4; and

6) signalling said results of the comparing step to an Operation, Administration, Maintenance and Provisioning sub-system.

6. The method of Claim 5, wherein the monitoring steps each comprise the following steps:

1) detecting the line code of a connection; and

2) detecting the protocol of said connection.